

(No Model.)

R. NEWTON.
Velocipede.

No. 231,347.

Patented Aug. 17, 1880.

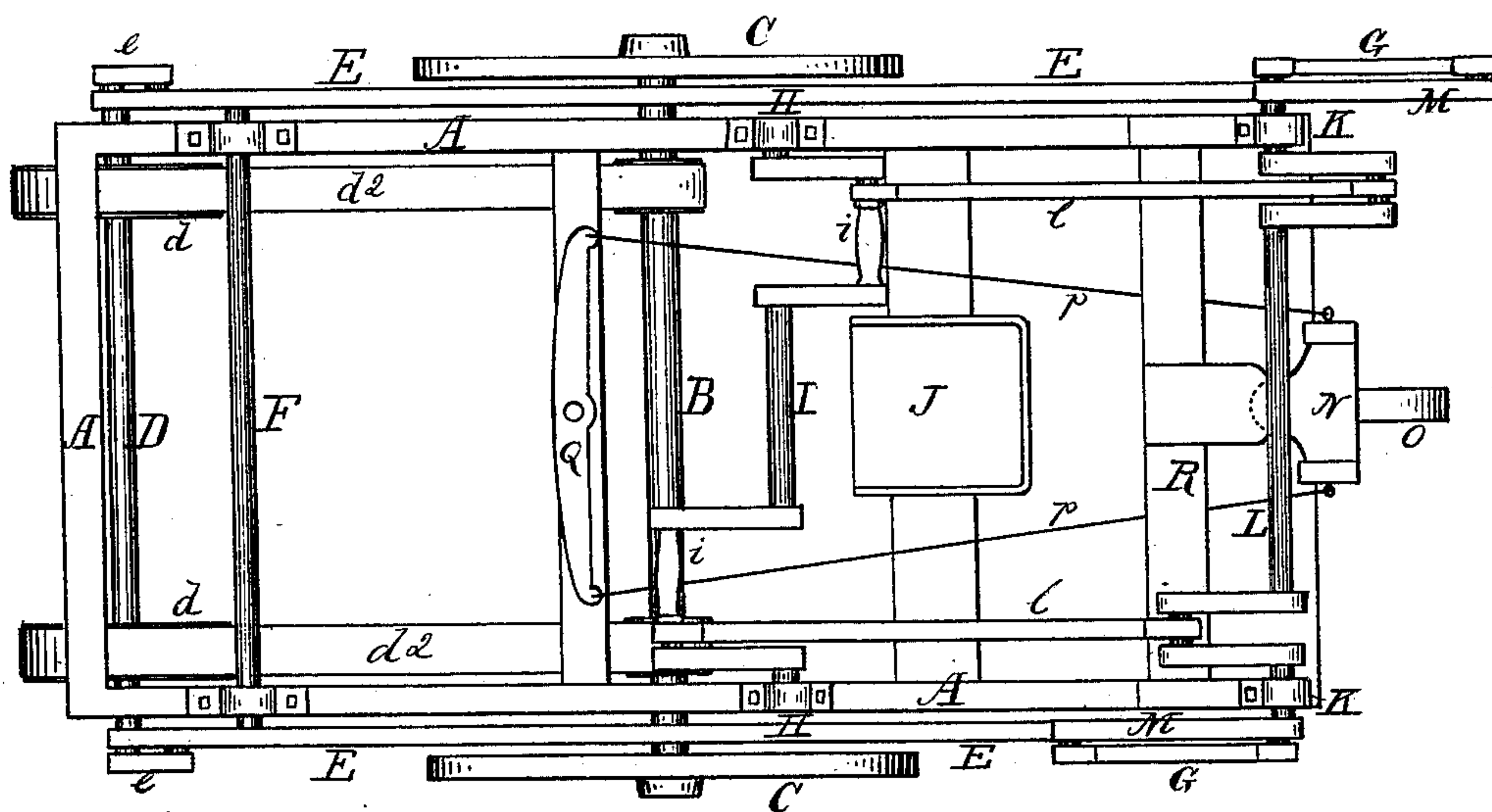


Fig. I.

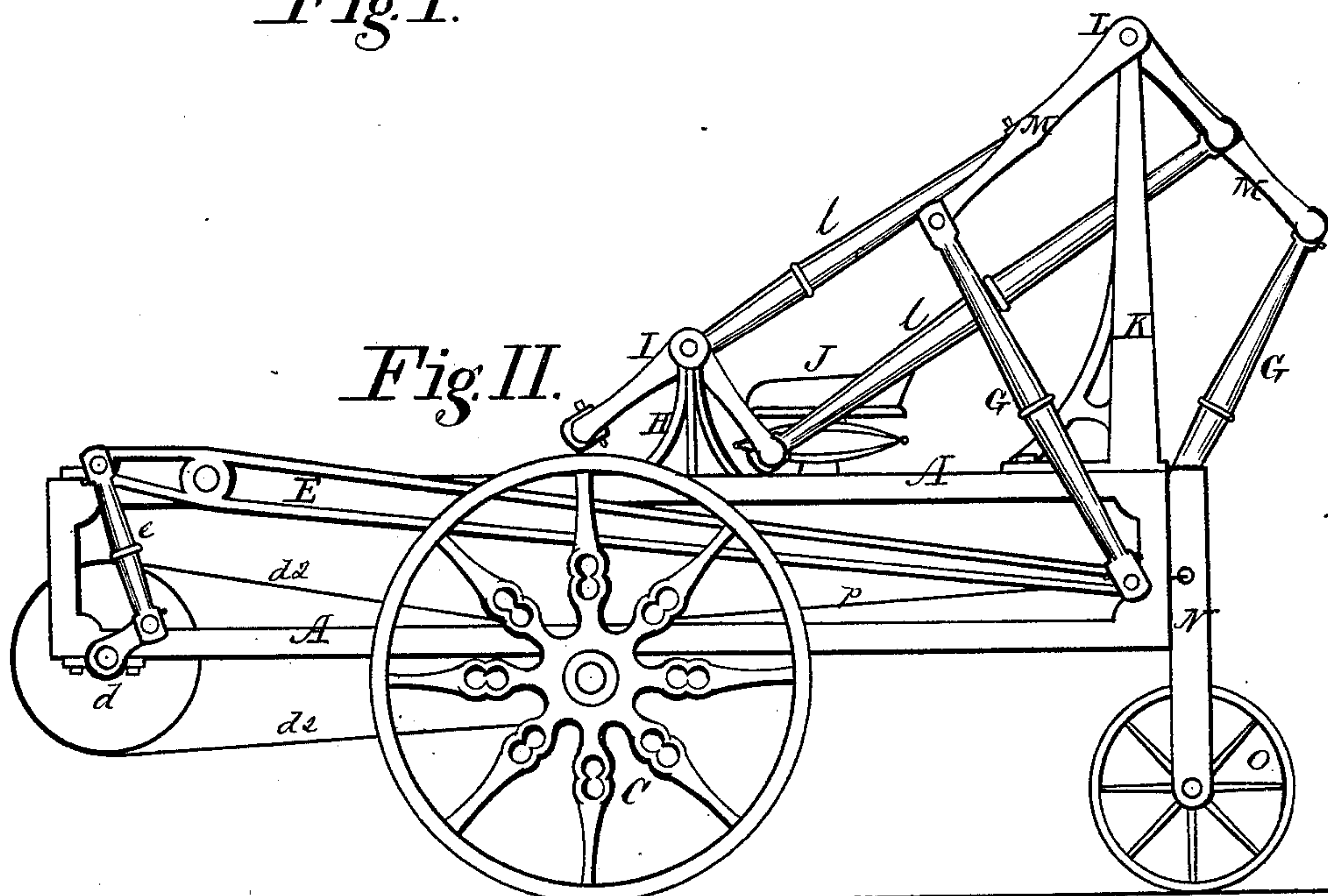


Fig. II.

Witnesses;

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UNITED STATES PATENT OFFICE.

RICHARD NEWTON, OF CLEVELAND, OHIO.

VELOCIPEDÉ.

SPECIFICATION forming part of Letters Patent No. 231,347, dated August 17, 1880.

Application filed April 8, 1880. (No model.)

To all whom it may concern:

Be it known that I, RICHARD NEWTON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Velocipedes, of which the following is a specification.

In the accompanying drawings, Figure I is a top or plan view. Fig. II is a side elevation.

The nature of this invention will fully appear from the subjoined description when considered in connection with the accompanying drawings.

A is a frame, of rectangular form, preferably made of iron, to which the several bearings for the crank-shafts and levers are attached, said frame supporting all the working parts of the machine. B is a shaft, set in suitable bearings on the under side of said frame and a little forward of the center, to which are attached the two driving-wheels C C. At the forward end of the frame A, on the under side, is placed a crank-shaft, D, carrying two pulleys, *d d*, connected by belts *d²* to pulleys *b b* on the driving-shaft B. These are the two shafts which propel the carriage. They derive their motion from additional crank-shafts, operated by the rider, transmitted to them by means of two long levers, E E, on the outside of the frame A. Across the frame A, on the upper side and near the forward end, is placed a shaft, F, to which the aforesaid levers E E are attached. The short arms of said levers are connected to the cranks on the shaft D by connecting-rods *e e*, the long arms of said levers extending away to near the rear end of the frame A, where they are connected by connecting-rods G G to the operating-cranks. Near the middle of the frame A, on the upper side, are two short posts, H H, having bearings in their upper ends, supporting a double crank-shaft, I. This shaft is provided with handles *i i*, arranged to be grasped by the rider sitting in a seat, J, provided for that

purpose, in convenient position for operating them.

On the rear end of the frame A are placed two high posts, K K, having bearings in their top ends, and supporting a double-crank shaft, L, which is connected by two connecting-rods, *l l*, to the hand crank-shaft I. Said crank-shaft L also has two outside cranks, M M, which are connected by the long arms of the levers E E, for communicating motion thereto.

At the rear end of the frame A is provided a steering device consisting of a swivel-post, N, carrying a guiding-wheel, O. This swivel-post is connected by rods *p p* to a foot-lever, Q, pivoted to a cross-bar, R, in the frame A, and is operated by the feet of the rider.

It will be observed that the mated cranks on each shaft are placed at right angles to each other, to prevent any of them becoming fixed on the centers.

The levers E E, it will be noticed, are arranged so as to obtain great power, and thus require less exertion on the part of the operator.

I claim—

In a vehicle of the velocipede class, the combination of the herein-described elements, consisting of the frame A, shaft B, and wheels C C, the crank-shaft D, carrying pulleys *d d*, which are connected by belts *d²* to pulleys on shaft B, the shaft F, with the levers E E, connected to crank-shaft D by connecting-rods *e e*, the hand crank-shaft I, connected by rods *l l* to crank-shaft L, said shaft L also having outside cranks, M, which are connected to the long arms of the levers E by rods G G, the said crank-shafts I and L being supported by posts H and K, these elements constituting the propelling mechanism, arranged to operate substantially as described.

Witnesses: RICHARD NEWTON.

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